

Facts about

Wyoming Law Enforcement Academy

**PHYSICAL FITNESS STANDARDS
AND EXERCISE PROGRAMS**



Ernest L. Johnson, Director

Table of Contents

Preface.....	2
What is physical fitness?	4
Why is fitness important as a job related element for officers?	4
How will physical fitness be measured?	5
What are the standards?.....	7
Physical fitness performance requirements chart	8
Entry Level - 40 th percentile	
Physical fitness performance requirements chart	9
Recommended Level of Fitness - 50 th percentile	
Physical fitness performance requirement chart.....	10
Minimum Level - 25 th percentile	
How does one prepare for the test?	11

Preface

The Wyoming Law Enforcement Academy, in an effort to improve the health and performance of our students, has established entry physical fitness standards for anyone attending the Peace Officer and Detention Officer Basic Courses. The standards are intended to lessen, as much as possible, the chance for injury and to maximize the effectiveness and efficiency of the Academy's training efforts.

Specifically, these entry standards were established in order to address and alleviate three concerns involving the basic training of peace officers and detention officers. After evaluating approximately ten years of actual experience with student performance at the Academy, we have been able to determine that students who test in the poor range of fitness (when compared with students who test as being physically fit) are: (1) more prone, or at a greater risk, to injury during their participation in the training that involves physical activity; (2) experience a greater degree of difficulty in learning the necessary enforcement skills (or tend to learn much more slowly); and, (3) require the expenditure of considerably more staff time and resources due to the additional remedial training and re-testing often required.

These standards have been adopted from guidelines developed by nationally recognized experts in the field of police physical fitness. A considerable amount of technical assistance and consultation was provided to the Academy by the Institute for Aerobic Research in Dallas, Texas, (whose staff is considered and recognized as the leaders in fitness research in the country.) These standards also incorporate the extensive amount of research and data that have been generated across this country during the last two decades, and utilizes the successful experiences of other states that have implemented similar standards.

Students are also required to actively participate in the structured physical training program which is a part of the mandated curricula of the Peace Officer and Detention Officer Basic Courses. This program is specifically designed to improve the student's level of physical conditioning in order to enhance student performance during the training and to better prepare the officer for the demands of police service. Although the Academy does not require our students to be at a certain level of fitness in order to graduate, we recommend that anyone employed as a law enforcement or detention officer be **at least** in the 50th percentile in each category of physical fitness.

Preface (cont.)

The purpose of this booklet is to provide descriptive information regarding police physical fitness and the related standards. Specifically, it will provide pertinent information relative to: fitness awareness; the importance of physical fitness for police; how fitness is to be measured; what the fitness standards are; and some tips on how to prepare for these standards. It is intended to answer most of the basic questions pertaining to all aspects of the fitness standards and the testing process. Should you have any additional questions, please call the Academy.

I would like to personally thank and recognize Wyoming Law Enforcement Academy Basic Programs Manager Tim Hood and Training Services Secretary Kerry Dennis for their exceptional efforts in developing and preparing the program and related materials.

I would also like to commend the members of the Academy Advisory Board and the Sheriff's and Chief's Association for demonstrating their ongoing commitment towards enhancing the professionalism of Wyoming law enforcement officers by voting to institute these standards for Academy students.

I personally believe that the entire State of Wyoming will ultimately reap the benefits of having a healthier, better conditioned, and more productive law enforcement officer. I sincerely hope that the Academy's Physical Fitness Training Program and instituted standards eventually prove to be beneficial in establishing an individualized life-long commitment to physical fitness by our graduates.

Ernest L. Johnson, Director
Wyoming Law Enforcement Academy

What is physical fitness?

Physical fitness is a health status pertaining to the individual officer having the physiological readiness to perform maximum physical effort when required. Physical fitness consists of four areas:

- **Aerobic Capacity** or cardiovascular endurance pertaining to the heart and vascular system's capacity to transport oxygen. Low aerobic capacity has been proven to be a risk factor for heart disease.
 - **Strength** pertains to the ability of muscles to generate force. Low strength levels in upper body and abdominal strengths have an important bearing on upper torso and low back disorders.
 - **Flexibility** pertains to the range of motion of the joints and muscles. Lack of lower back flexibility is a major risk area for lower back disorders.
 - **Body weight and body composition** pertain to body mass and the ratio of fat to lean tissue. Excessive fat is a handicap for physical movement and is a serious health risk for many diseases.
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Why is fitness important as a job related element for officers?

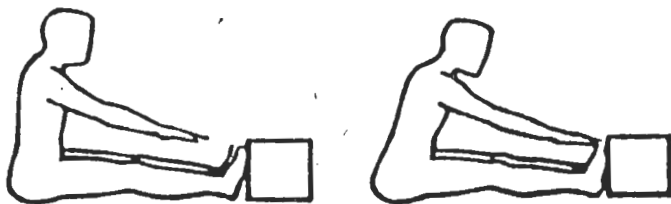
- It has been well documented that law enforcement personnel have serious health risk problems in terms of cardiovascular disease, lower back disorders and obesity. Physical fitness is a health domain which can minimize "known" health risks for law enforcement officers.
- Physical fitness has been demonstrated to be a bona fide occupational qualification. Job analysis that account for physical fitness have demonstrated that the fitness areas are underlying factors determining the physiological readiness to perform a variety of critical physical tasks. These four fitness areas have also been shown to be predictive of an officer's job performance and use of sick time. Data also show that the fitness level is predictive of trainability and academy performance.

How will physical fitness be measured?

The Physical Fitness Assessment consists of four basic tests. Each test has been proven to have scientific validity. The **entry** assessment will be conducted in a two hour session at a designated time prior to the start of the Basic Course. A **final** assessment will be administered over a two day period near the conclusion of the Basic Course.

1. Sit and Reach Test

This is a measure of the flexibility of the lower back and upper leg area. It is an important area for performing police tasks involving range of motion and is important in minimizing lower back problems. The test involves stretching out to touch the toes or beyond with extended arms from the sitting position. The score is measured in the inches reached on a yard stick with 15 inches being at the toes.



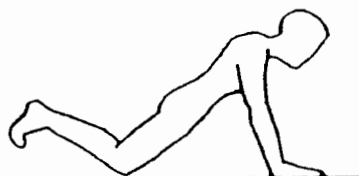
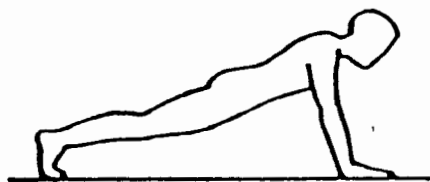
2. 1 minute sit-up test

This is a measure of the muscular endurance of the abdominal muscles. It is an important area for performing police tasks that may involve the use of force and is an important area for maintaining good posture and minimizing lower back problems. The score is calculated by the number of bent leg sit-ups performed in 1 minute.



3. 1 minute push-up test

This test requires the person to push their own weight off the floor and is used to evaluate upper body endurance strength relative to their body weight. Low levels of muscular endurance indicates inefficiency in movement and a low capacity to perform work. The score is calculated by the number of push-ups performed in 1 minute.



FEMALE PROTOCOL

4. 12 minute walk/run

This is a timed run designed to measure the heart and vascular system's capability to transport oxygen. It is an important area for performing police tasks involving stamina and endurance and to minimize the risk of cardiovascular problems. The score is calculated by the amount of ground covered within the allotted 12 minutes and 15 seconds (An extra 15 seconds is added to the allotted time for high altitude consideration).



What are the standards?

The actual performance requirement for each test is based upon norms from a national population sample.

The required performance to pass each test is based upon gender and age. However, if the entering student is within the 10th percentile of the standard, an opportunity will be given to reach the required Entry Standard by a predetermined date. Should the Entry Standard not be met by that date, the student will not be allowed to continue with the Basic Course. All students are required to meet the same percentile rank in terms of their respective age/gender group. While the levels required may vary, the levels of effort are equal.

ENTRY: The entry standard can be attained by meeting one of the following requirements: (1) each student must meet the 40th percentile level in each category assessed; or (2) accumulate a 50th percentile average of all categories assessed, with a minimum level of the 25th percentile in any category.

Should a student fail to attain the required level of fitness during the entry assessment he/she will not be eligible to attend that Basic Course.

- **ACTIVE PARTICIPATION:** Students are required to actively participate in the structured physical training program which is a part of the mandated curricula of the Peace Officer and Detention Officer Basic Courses.

- **RECOMMENDED LEVEL OF FITNESS:** Although the Academy does not require our students to be at a certain level of fitness in order to graduate, we recommend that anyone employed as a law enforcement or detention officer be at least in the 50th percentile in each category of physical fitness.

Students may earn a "Fit for Duty" pin by achieving the 50th percentile in each category assessed. The pin has been authorized to be worn on the uniform by a number of departments in the state.

Physical fitness performance requirements chart

Entry Level (40th percentile)

TEST	40 th percentile Entry Level - Male						
	20-29	30-34	35-39	40-44	45-49	50-54	55-59
Sit/Reach	16.5	15.5	14.8	14.3	13.8	13.3	12.8
1 Minute Sit-up	38	34	31	29	26	24	21
1 Minute Push-up	29	24	21	18	15	13	11
12 Min. Walk/Run	1.45	1.39	1.36	1.33	1.29	1.25	1.20

TEST	40 th percentile Entry Level - Female						
	20-29	30-34	35-39	40-44	45-49	50-54	55-59
Sit/Reach	19.3	18.3	17.8	17.3	17.0	16.8	16.1
1 Minute Sit-up	32	25	22	20	17	14	10
1 Minute Push-up	23	19	16	13	12	11	8
12 Min. Walk/Run	1.25	1.21	1.17	1.13	1.09	1.06	1.02

Physical fitness performance requirements chart

Recommended Level of Fitness (50th percentile)

TEST	50 th percentile Recommended Level - Male						
	20-29	30-34	35-39	40-44	45-49	50-54	55-59
Sit/Reach	17.5	16.5	15.8	15.3	14.8	14.5	14.0
1 Minute Sit-up	40	36	33	31	28	26	23
1 Minute Push-up	33	27	24	21	18	15	15
12 Min. Walk/Run	1.50	1.45	1.41	1.37	1.33	1.29	1.24

TEST	50 th percentile Recommended Level - Female						
	20-29	30-34	35-39	40-44	45-49	50-54	55-59
Sit/Reach	20.0	19.0	18.5	18.0	18.0	17.8	17.1
1 Minute Sit-up	35	27	24	22	19	17	12
1 Minute Push-up	26	21	18	15	14	13	10
12 Min. Walk/Run	1.29	1.25	1.21	1.17	1.13	1.10	1.06

Physical fitness performance requirements chart

Minimum Level (25th percentile)

TEST	25 th percentile Minimum Level - Male						
	20-29	30-34	35-39	40-44	45-49	50-54	55-59
Sit/Reach	15.0	13.8	13.2	12.5	11.8	11.2	10.8
1 Minute Sit-up	34	31	28	26	23	20	17
1 Minute Push-up	24	19	16	13	11	9	8
12 Min. Walk/Run	1.37	1.33	1.29	1.25	1.21	1.17	1.12

TEST	25 th percentile Minimum Level - Female						
	20-29	30-34	35-39	40-44	45-49	50-54	55-59
Sit/Reach	17.8	16.8	16.4	16.0	15.6	15.3	14.5
1 Minute Sit-up	28	21	18	16	13	11	7
1 Minute Push-up	19	14	11	9	9	8	5
12 Min. Walk/Run	1.17	1.13	1.11	1.09	1.05	1.01	.98

How does one prepare for the assessment?

The Wyoming Law Enforcement Academy makes the following recommendations prior to attending the Peace Officer and Detention Officer Basic Course:

1. We encourage officers to begin preparing for attendance at the Academy by starting an exercise program prior to arrival. The body will be better prepared for the increased level of physical activity that is required while participating in the Academy's Physical Fitness and Custody Control training programs. It should also enhance performance in other physical skills areas.
2. Officers should have a medical examination to assure active participation in all physical skill areas of training.
3. Determine individual target heart rate (THR) for participating in aerobic activity. This is a heart rate an individual should not exceed while exercising. The THR is based on your present age, resting heart rate (RHR), and a percentage of your maximum heart rate. This percentage is usually calculated at 70% for beginners. However, we urge caution. If you have led a sedentary life style for the last few years, we recommend you use a 60% rate formula to start. To calculate your THR, follow the formula below.

		<i>Example:</i>	
220	Maximum heart rate	220	
<u>-AGE</u>		<u>-30</u>	(Age)
	Individual Maximum	190	
<u>-RHR</u>		<u>-70</u>	(RHR)
		120	
<u>x.70</u>		<u>x.70</u>	(%) or .60
		84.0	
<u>+RHR</u>		<u>+70</u>	(RHR)
THR		154.0	(THR)

4. Easy stretching before exercising is a must in order to warm-up the muscles. This should be done in a gentle manner, stretching only to the length of feeling comfortable. The muscles are cold at the start of exercising and need gradual warm-up.
5. Cool down after exercising by continued movement of walking and stretching. This prevents pooling of the blood in the lower extremities which may occur if you immediately sit down or lay down upon completion of exercising.
6. Follow the preparations suggested in this booklet to assure yourself of a better level of fitness upon arrival.

1. Preparing for the sit and reach test.

Performing sitting types of stretching exercises daily will increase this area. There are two recommend exercises.

Sit and reach. Do 5 repetitions of the exercise. Sit on the ground with legs straight. Slowly extend forward at the waist, keeping the back straight, push the chest toward the toes easily. Extend the fingertips toward the toes, keeping legs straight. Hold for a minimum of 10 seconds.



Towel stretch. Sit on the ground with legs straight. Wrap a towel around the feet holding each end with each hand. Lean forward and pull gently on the towel extending the torso toward the toes.



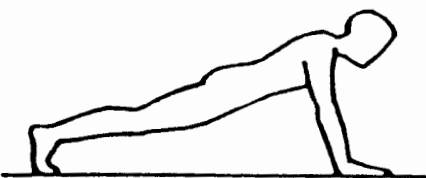
2. Preparing for the sit up test.

The progressive routine is to do as many bent leg sit ups (hands positioned next to the side of the head) as possible in 1 minute. At least 3 times a week do 3 sets (3 groups of the number of repetitions done in 1 minute).



3. Preparing for the push-up test.

Determine how many push-ups can be done in 1 minute. At least 3 times a week do 3 sets of the amount done in one minute.



FEMALE PROTOCOL

4. Preparing for the 12 minute walk/run.

Below is a gradual schedule that would enable one to perform a minimum effort for the 12 minute walk/run. If one can advance the schedule on a weekly basis, then proceed to the next level. If one can do the distance in less time, then that should be encouraged.

Week	Activity	Distance	Time	Frequency
1	Walk	1 Mile	20'-17'	5/week
2	Walk	1.5 Miles	29'-25'	5/week
3	Walk	2 Miles	35'-32'	5/week
4	Walk	2 Miles	30'-28'	5/week
5	Walk/Jog	2 Miles	27'	5/week
6	Walk/Jog	2 Miles	26'	5/week
7	Walk/Jog	2 Miles	25'	5/week
8	Walk/Jog	2 Miles	24'	4/week
9	Jog	2 Miles	23'	4/week
10	Jog	2 Miles	22'	4/week
11	Jog	2 Miles	21'	4/week
12	Jog	2 Miles	20'	4/week